XPA-3 GEN 2

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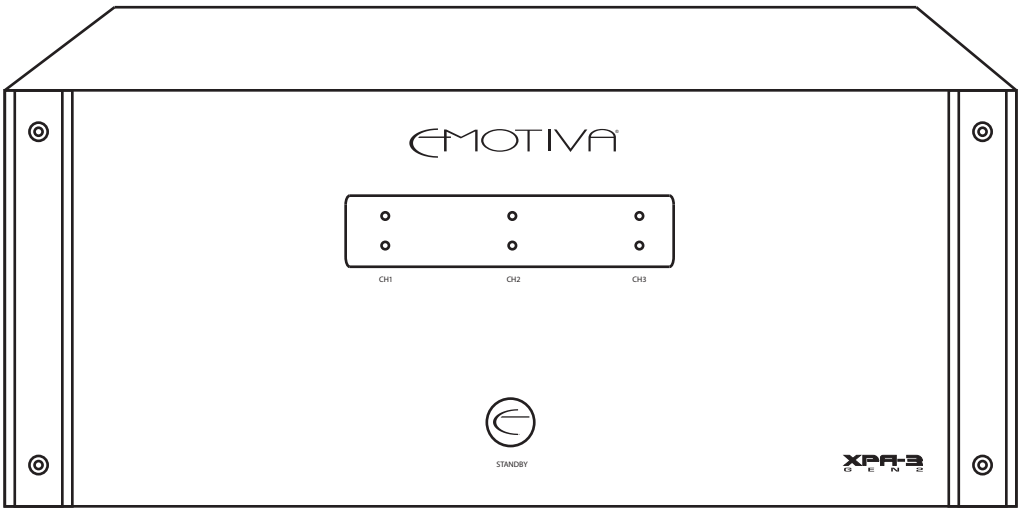


XPA-3 GEN 2

3-Channel Power Amplifier
User Manual

Important Safety Precautions and Explanation of Symbols

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important installation, operation, and service instructions in this manual.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to the user.

Please read this manual thoroughly before attempting to install, configure, or operate the XPA-3 power amplifier. After successful installation and configuration of the XPA-3, be sure to retain this manual in a safe place for future reference.

Safety is a key component to a long lasting and trouble free installation. Please read and follow all instructions and heed all warnings on the XPA-3 and in this manual. The vast majority of the subsequent safety precautions are common sense. If you are not comfortable with the installation of audio/video entertainment equipment, you should seek the services of a qualified installation professional or call us for help.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT USE THE XPA-3 NEAR WATER OR IN WET LOCATIONS, DO NOT EXPOSE IT TO RAIN OR MOISTURE, DO NOT EXPOSE IT TO DRIPPING OR SPLASHING FROM OTHER SOURCES, AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS (SUCH AS VASES) ARE PLACED ON IT. DOING SO MAY RESULT IN DAMAGE TO THE UNIT AND THE RISK OF ELECTRIC SHOCK, WHICH MAY RESULT IN BODILY INJURY OR DEATH.

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER FROM THE XPA-3. THERE ARE NO USER-SERVICEABLE PARTS INSIDE THE UNIT. REFER ALL SERVICE TO QUALIFIED SERVICE PERSONNEL.

Do not install the XPA-3 near or above any heat sources such as radiators, heating vents, or other apparatus' that produce heat. Do not block any ventilation openings or heat sinks. Avoid installing the unit directly above other heat-producing equipment unless sufficient ventilation or forced-air cooling is provided.

Do not install the XPA-3 in locations without proper ventilation. The XPA-3 should not be operated on a bed, sofa, rug, or similar surface that may block vents. The unit should not be installed in an enclosed location such as a bookcase, cabinet, or closed equipment rack unless sufficient forced-air ventilation is provided.

Always install your XPA-3 according to the manufacturer's instructions and only use attachments or accessories specified by the manufacturer.

Do not install the XPA-3 on any stand, shelf, or other piece of furniture that is unable to support its weight. If a cart is used to move the unit, use caution to avoid injury from tip-over.

Connect the XPA-3 only to power sources of the correct voltage (as shown in this manual and on the XPA-3 unit).

Protect power supply cables from being pinched, walked on, or otherwise damaged. Be especially careful where the power cable enters the power outlet and the unit.

Only connect the XPA-3 to an electrical outlet or extension cord of appropriate type and rating.

DO NOT defeat the safety purpose of a grounding or polarized plug by removing ground pins or using unsafe adapters. A polarized plug has two blades - one wider than the other. A grounding plug has a third ground prong in addition to the two main conductors. The wide blade or third groundling prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete outlet. If you replace the power cord, only use one of similar type and equal or greater current rating.

The power cable for the XPA-3 should be unplugged from the outlet during severe electrical storms, or when unused for a long period of time.

Only replace the fuse(s) in the XPA-3 with fuse(s) of proper value and voltage rating.

The XPA-3 should only be cleaned as directed in the manual. Avoid spraying liquids directly onto the unit and NEVER spray liquids into the vents. Care should be taken so that small objects do not fall into the inside of the unit.

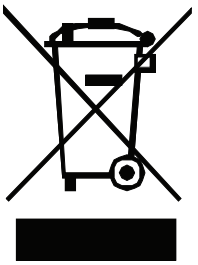
You should seek service for your XPA-3 by qualified service personnel if any of the following occur:

1. The power-supply cord or the plug has been damaged.
2. Objects or liquid have fallen or spilled into the vents.
3. The unit has been exposed to rain.
4. The unit exhibits a marked change in performance.
5. The unit has been dropped, or its enclosure or chassis is damaged.

NOTE: TO COMPLETELY DISCONNECT THE XPA-3 FROM THE AC POWER MAINS, DISCONNECT THE AC POWER CORD FROM THE AC RECEPTACLE.

NOTE: THE POWER CORD ON THE XPA-3 MUST REMAIN READILY ACCESSIBLE AT ALL TIMES.

CAUTION
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



EMOTIVA®

XPA-3 Three Channel Power Amplifier

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Introduction

Thank you for purchasing the new and improved second generation Emotiva XPA-3 three channel power amplifier.

The XPA-3 is the perfect amplifier to power the front channels of a truly superb surround sound audio system. The XPA-3 has it all: enough power to drive any speaker cleanly and effortlessly, incredible clarity and detail, vanishingly low noise and distortion, and good looks that easily fit in with any room decor.

Our new second generation XPA-3 carries on our tradition of cutting edge design, a massively over-designed power supply and output stages, high quality parts and construction throughout, audiophile sound quality, and exceptional value. This new generation adds solid machined gold plated RCA jacks on the unbalanced inputs, high-quality metal toggle switches for input selection, and a more modern design aesthetic. We've also added some circuit refinements under the hood to make the best sound even better.

The new XPA-3 delivers 200 watts per channel into 8 ohms and 330 watts per channel into 4 ohms, all channels driven, at less than 0.1% THD+N. It is absolutely stable into virtually every real-world speaker load you'll ever encounter, and will never allow the slightest hint of strain or harshness to intrude on your musical experience. The XPA-3 new generation, redefining a classic.

What does the XPA-3 sound like?

Music: nothing more and nothing less!
(We wouldn't have it any other way.)

Happy listening!

The Emotiva Team

About This Manual

This manual will provide you with the information you need to get started enjoying your XPA-3 three channel power amplifier.

We suggest that you read through the entire manual; we kept things as short and direct as possible. Even if you're an expert user, you will probably find some interesting information and useful suggestions.

If you're really in a hurry to get started, please read the Quick Start section (on page 11); you may then read the remainder of the manual at your leisure.

You may wish to keep a copy of this manual with your records, and record serial numbers or other purchase information on the Notes page at the back.

Features

The XPA-3 is an audiophile-grade power amplifier that provides three channels of superb quality audio amplification. The XPA-3 features our fully discrete, high-current, short signal path class A/B output section, and all of the cutting-edge design and high quality construction you've come to expect from Emotiva. The new second generation XPA-3 includes all of the advanced engineering and exceptional sound quality of our original XPA-3, but adds a few extra refinements that make it even better.

Features offered by the second generation XPA-3 include:

- **True audiophile-quality sound** - the XPA-3 was designed first and foremost to sound superb in both music and home theater systems.
- **Great sounding Class A/B topology and advanced engineering** - ensures smooth, detailed sound and incredibly natural imaging while maintaining efficient performance.
- **Heavy duty power supply with oversized toroidal transformer** - provides plenty of real power for demanding program material, and has plenty of reserves to deliver signal peaks without any sense of strain.
- **Top quality parts and construction throughout** - promise years of reliable service.
- **Totally stable** - designed for use in the real world, with real speakers.
- **New styling** - an updated, more evolved version of our classic XPA amplifier style.
- **Stealth mode -** lets you disable status LEDs for discreet operation.
- **Heavy steel 4RU chassis with milled aluminum face plate** - provides strength and rugged good looks.
- **Gold plated five-way speaker binding posts with clear shields** - allow you to use a wide range of speaker cables with bare wires, lugs, or banana plugs.
- **Solid machined gold-plated RCA input connectors** - provide a reliable connection with a wide variety of audio interconnects.
- **Choice of balanced or unbalanced inputs -** independently controlled by high-reliability metal toggle switches ensure long service life.
- **Remote trigger input and output** - allow the XPA-3 to be turned on by trigger-enabled equipment, and to activate other trigger-enabled equipment.
- **Audiophile-grade fault protection** - is entirely transparent under normal conditions, yet protects the amp and your other equipment from all common fault conditions.
- **Universal AC line voltage operation -** 115 VAC or 230 VAC (with automatic detection and switching).
- **Standard IEC power inlet -** fits all standard and audiophile IEC power cables.
- **Fully transferable five-year warranty** - ensures that you'll be able to enjoy your XPA-3 for years to come (and helps the XPA-3 maintain its value).

You can find more information about the XPA-3 on our website at www.emotiva.com.

Unpacking

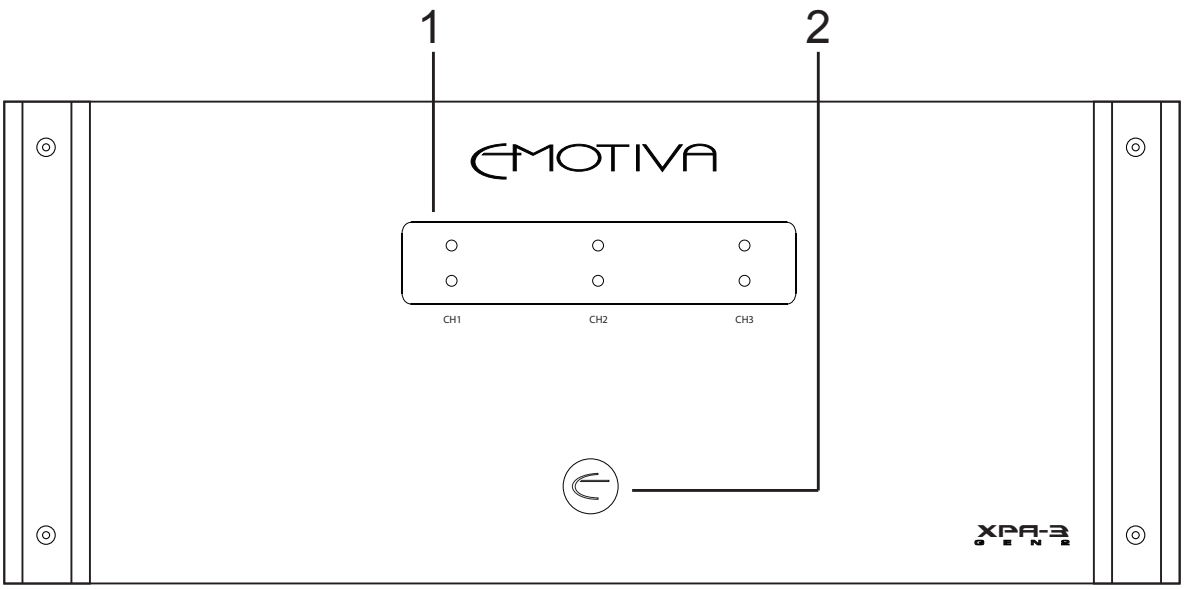
Your XPA-3 was carefully packed and should reach you in perfect condition. If you notice any shipping damage or other issues when you unpack it, please contact Emotiva immediately.

Gently remove your XPA-3 from the packing carton and remove all wrappings and shipping material.

It is important to save the box and all packing materials in case your power amp ever needs to be moved or shipped back to the factory for service.

We truly value customer feedback and would like to hear from you.

XPA-3 Front Panel



1. Status Display Window

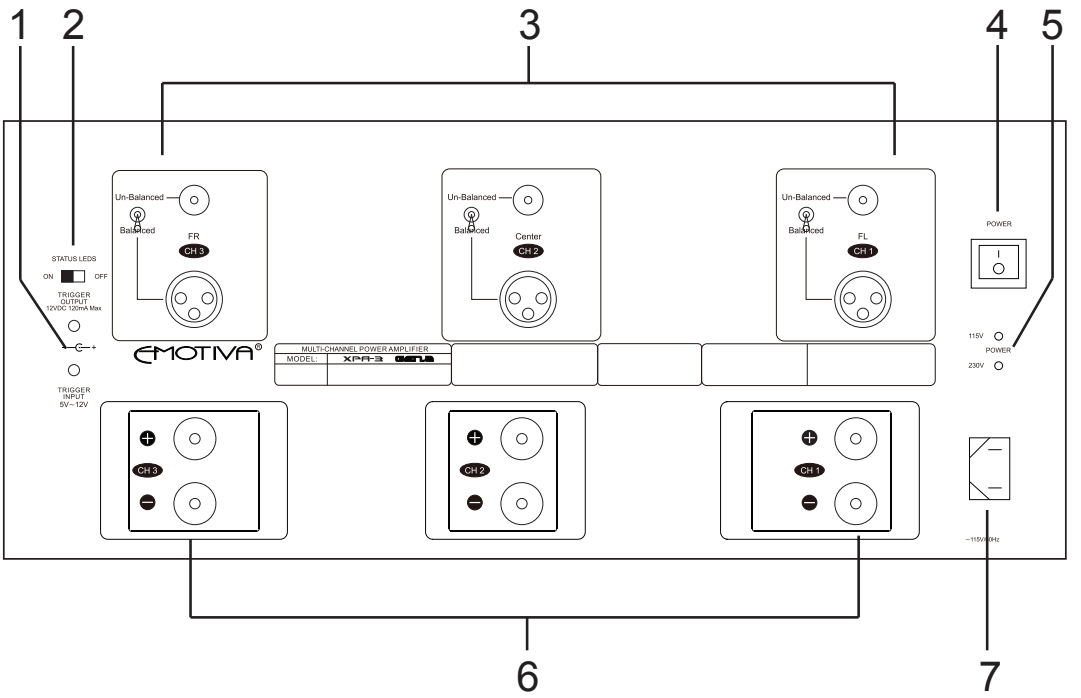
This window houses the status LEDs.

Note: The Status LEDs can be disabled by the Status Indicator switch on the rear panel.

2. Standby Button

Press to switch the amplifier On; press again to return to Standby; the halo ring around the button (and the "E" on the button) illuminate amber for Standby and blue for On.

XPA-3 Rear Panel



1. Trigger Input and Trigger Output

The XPA-3 is switched On (from Standby) when a trigger signal is presented at the Trigger Input; the XPA-3 returns to Standby when the trigger signal is removed. When the XPA-3 is on, a 12 VDC signal is sent from the Trigger Output to control other devices.

2. Status LED Switch

Disables the front panel status LEDs when set to Off.

3. Inputs

Balanced and unbalanced inputs and Input Selector switches.
(See the Inputs (Rear Panel) section for details.)

4. AC Power Switch

Switches the main AC power to the XPA-3 On and Off. When this switch is Off, no controls operate (the XPA-3 cannot be turned On from the front panel or by a trigger signal).

5. Input Voltage Indicator

The XPA-3 automatically detects and switches between 115 VAC and 230 VAC. These indicators tell you which line voltage the XPA-3 has detected.

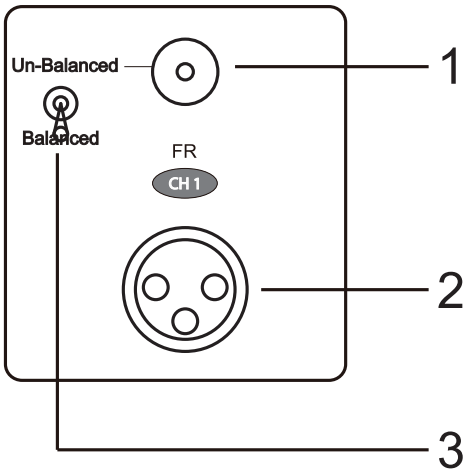
6. Speaker Terminals

Gold plated audiophile quality five-way binding posts with clear shields accept banana plugs, lugs, or bare wire.

7. IEC Power Cord Receptacle

Accepts a standard removable IEC AC power cable (a high-quality commercial power cable is included).

XPA-3 Inputs (Rear Panel)



Note: Each channel has separate Balanced and Unbalanced inputs and an independent Input Selector switch. One channel is shown for clarification.

1. Unbalanced (RCA) Input

Audiophile quality gold plated machined RCA input connector (accepts a line level unbalanced input).

2. Balanced (XLR) Input

Standard XLR connector (accepts a line level balanced input).

3 Un-Balanced / Balanced Selector Switch

High-quality metal toggle switch independently selects between the Unbalanced (RCA) and Balanced (XLR) input for each channel. Up selects the Unbalanced input and Down selects the Balanced input. Only one input can be used at once for each channel. (It is allowed to plug in both a balanced and an unbalanced source and use the switch to select between them, but only one will be active at once.)

Quick Start

To get the most from your XPA-3, we urge you to read the entire manual. If you just can't wait to listen to it, this section will cover the basics you need to get started.

- Find a secure location for your XPA-3.
- Connect your XPA-3 to a signal source.
- Connect your XPA-3 to some speakers (4 ohm or 8 ohm) using reasonably heavy gauge speaker wires (at least 18 gauge).
- Find some music you *really* like to listen to.
- Turn on the AC Power switch and turn up the volume a bit!
- Enjoy!

While you're enjoying your XPA-3, it would be a great time to read the rest of the manual to learn more about it.

Connections

Connecting speakers to your XPA-3

Your XPA-3 has no special connection requirements; audiophile grade five-way binding posts are provided for speaker connections.

- **Always** turn off the amplifier before connecting or disconnecting speaker cables or signal source interconnects.
- **Always** verify that your speaker cables are firmly attached, and not shorted to each other or to any other cables, before powering up your XPA-3.
- **Always** use high-quality speaker wire; 18-gauge or heavier.
- If you must use thinner wire, try to keep the length as short as possible.
- Be careful to wire all speakers "in phase" (the plus/red terminal on each speaker to the plus/red terminal on your amp).
- Try to use wires of equal length and gauge for both speakers in each pair (use the same gauge and length for both fronts, or for both surrounds; don't use a long 16-gauge wire for one speaker and a short 10-gauge wire for the other).
- If you use stranded cables, use care to avoid short circuits (from stray strands touching).
- Emotiva offers very high-quality, pre-made speaker cables at reasonable prices. You will find them in the E-connects section of our website at www.emotiva.com.

Connecting an input source to your XPA-3

Your XPA-3 amplifier has both balanced (XLR) and unbalanced (RCA) inputs; switches independently select which input is active for each channel. Be sure to set these switches correctly. If your source component offers both types of outputs, a balanced connection is generally preferred, especially for long cable runs and in noisy environments. We suggest using reasonably high quality cables, keeping cables no longer than necessary, and avoiding running signal cables near power cables and speaker cables whenever possible.

DO NOT connect a digital signal to the inputs of your XPA-3 (or you may damage it or your speakers).

Connecting the Trigger Input and Trigger Output

The Trigger Input accepts a 12 VDC (nominal) trigger signal from another device via a standard 1/8" mono plug. When the trigger is asserted, the XPA-3 will switch On; when the trigger is removed, the XPA-3 will return to Standby mode. The Trigger Output sends out 12 VDC whenever the main power to the XPA-3 is On (and NOT when it is in Standby mode) which can be used to switch on other units with trigger capabilities.

Configuration and Operation

Line Voltage

The XPA-3 can operate from line voltages of 115 VAC +/- 10% or 230 VAC +/- 10%. The amplifier will automatically detect which line voltage it is connected to and configure itself accordingly. The Line Voltage indicators will tell you which line voltage the XPA-3 has detected.

AC Power Switch (rear panel)

The rear-panel AC Power switch controls the main AC power for your XPA-3. When this switch is in the Off position, the amplifier will not operate. Turning it On will put the XPA-3 into Standby mode.

Standby Switch (front panel push button)

Press to switch the amplifier On; press again to return to Standby; the halo ring around the button illuminates amber for Standby and blue for On.

Un-Balanced / Balanced Selector Switches

Independently switch between the Unbalanced (RCA) and Balanced (XLR) inputs. Up selects the Unbalanced input and Down selects the Balanced input. Only one input can be used at once for each input. (It is allowed to plug in both a balanced and an unbalanced source and use the switch to select between them, but only one will be active at once.)

Status LED Switch

Disables the front panel status LEDs when set to Off.

Trigger

When a trigger cable is connected to the Trigger Input (on the rear panel), and a trigger signal is received (between 5-20 V - AC or DC), the XPA-3 will switch from Standby to On; when the trigger signal ceases, the XPA-3 will return to Off.

The trigger is typically connected to the preamp or pre/pro that provides a signal source for the XPA-3, and set to turn the XPA-3 on when the preamp or pre/pro is turned on.

Whenever the XPA-3 is On, the Trigger Output will assert a 12 VDC signal, which may be used to turn on other trigger-enabled equipment.

Care and Maintenance

Periodic Maintenance

Your XPA-3 requires no periodic maintenance or calibration.

Cleaning your XPA-3

- If necessary, the XPA-3 should be cleaned gently with a soft rag.
- If something sticky gets on the front panel or case of the XPA-3, it should be cleaned with a mild cleaning solution applied to a soft rag, followed by wiping with a clean rag dampened with plain water and drying with a soft dry rag or cloth.

Note: DO NOT spray water or cleaning solution directly onto the XPA-3 or into the vents.

Specifications

Topology:

Fully discrete, dual differential, high current, short signal path Class A/B.

Number of Channels:

3.

Power Output (rated power; THD < .1%):

200 watts per channel; all channels driven; into 8 Ohms.
330 watts per channel; all channels driven; into 4 Ohms.

Rated Power Bandwidth (at rated power; 8 Ohm load):

20 Hz to 20 kHz + / - 0.07 dB.

Minimum Recommended Load Impedance:

4 Ohms; (which equals one 4 Ohm load or two paralleled 8 Ohm loads).

Frequency Response:

10 Hz to 80 kHz (+ 0 / - 1 dB).

THD + noise:

< 0.05%.

Signal to Noise Ratio (8 Ohm load):

> 96 dB at 1 watt (A-weighted).

> 118 dB at rated power (A-weighted).

Damping Factor (8 Ohm load):

> 500.

Speaker Output Connections:

Audiophile grade, gold plated, 5-way binding posts.

Power Supply:

60,000 uF of storage capacitance.
850 VA heavy duty toroidal transformer.

Input Sensitivity (for rated power; 8 Ohm load):

1.1 V.

Gain:

29 dB.

Input Connections:

Unbalanced (RCA); balanced (XLR); one each per channel, independently selectable.

Input Impedance:

33 kohms (balanced).
23.5 kohms (unbalanced).

Trigger:

Trigger Input: 5 - 20 V (AC or DC); <10 mA input current required.
Trigger Output: 12 VDC; can drive any load up to 100 mA.

Power Requirements:

115 VAC or 230 VAC +/- 10% @ 50 / 60 Hz (automatically detected and switched).

Front Panel Controls and Indicators:

Standby; push button (halo ring changes color to indicate Standby or On).
Status LEDs; one per channel; blue.
Status LEDs change to red to indicate a fault condition.

Rear Panel Controls:

AC Power switch; rocker switch (switches AC main power).
Status LEDs switch; disables front panel Status LEDs and dims Standby button halo.
Input selector switches (one per channel); metal toggle switches; select between balanced and unbalanced inputs.

Protection:

The XPA-3 is protected against excessive operating temperature, shorted speaker connections, ground faults, and other common fault conditions.

Dimensions:

17″ wide x 7.75″ high x 19″ deep; unboxed (includes feet and binding posts).
23.5″ wide x 12″ high x 24.75″ deep (boxed).

Weight:

57.5 pounds unboxed (68.5 pounds boxed).

Troubleshooting

The XPA-3 is carefully designed and manufactured from high-quality precision components to ensure years of trouble free operation. We really doubt you'll ever have any problems with your XPA-3, but if you do, here are a few things you could try:

Problem: No output (nothing is lit).

Reason: You have no AC power.

- Verify that the rear panel AC Power switch is On.
- Verify that your circuit is live.
- Verify that the line cord on the XPA-3 is fully inserted and is tight.

Problem: The XPA-3 is operating normally, but none of the front panel status LEDs are lit.

Reason: The front panel status LEDs are turned off.

- Set the Status LEDs switch on the rear panel to On.

Problem: No sound or distorted sound is heard; the Standby button halo is lit blue; the status LEDs are lit blue.

Reason: The XPA-3 is not indicating a fault condition.

- Check your source.
- Check your Balanced/Unbalanced Selector Switches.
- Check your speakers and speaker connections.

Problem: No sound is heard; one or more Status LEDs are flashing red.

Reason: The XPA-3 is in Protect mode, which indicates a fault condition.

- Switch the rear panel AC Power switch Off and On to clear the Fault condition.
- If the fault remains, look for a shorted speaker cable or damaged speaker.
- Check your sources and source connections (a bad interconnect, DC on the input, or an otherwise bad source component can cause a fault).

Problem: The halo around the Standby button is lit amber and the XPA-3 fails to come on when triggered.

Reason: The XPA-3 is in Standby mode and should respond to a valid trigger signal.

- Check your trigger cable.
- Check the trigger settings on your source equipment.

Emotiva Audio Corporation Five-Year Limited Warranty

What does this warranty cover? Emotiva Audio Corporation ("Emotiva") warrants its products against defects in materials and workmanship.

How long does this coverage last? This warranty commences on the date of retail purchase by the original retail purchaser and runs for a period of five years thereafter. This warranty is transferable to any person that owns the warranted product during the Term. Emotiva warrants any replacement product or part furnished hereunder against defects in materials and workmanship for the longer of the following: (i) the amount of time remaining under the original warranty, or (ii) 120 days from your receipt of the repaired or replaced product. The duration described in the previous 2 sentences is hereinafter referred to as the "Term". TO THE FULLEST EXTENT PERMITTED BY LAW, ALL IMPLIED WARRANTIES RELATED TO THE ORIGINAL PRODUCT AND ANY REPLACEMENT PRODUCT OR PARTS (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE EXPRESSLY LIMITED TO THE TERM OF THIS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. A claim under this warranty must be made by you within the Term. A claim shall not be valid (and Emotiva has no obligation related to the claim) if it is not made within the Term and if it is not made in strict compliance with the requirements of the "How do you get service?" section.

What will Emotiva do? Emotiva will, at its option, either: (i) repair the product, or (ii) replace the product with a new consumer product which is identical or reasonably equivalent to the product. Emotiva may provide you with a refund of the actual purchase price of the product in the event (i) Emotiva is unable to provide replacement and repair is not commercially practicable or cannot be timely made, or (ii) you agree to accept a refund in lieu of other remedies hereunder. When a product or part is repaired or replaced, any replacement item becomes your property and the replaced item becomes Emotiva's property. When a refund is given, the product for which the refund is provided must be returned to Emotiva and becomes Emotiva's property.

What is not covered by this warranty? This warranty does not apply: (i) to damage caused by use with non-Emotiva products, where the non-Emotiva product is the cause of the damage; (ii) to damage caused by service or maintenance performed by anyone who is not a representative of Emotiva; (iii) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (iv) to a product or part that has been modified after its retail purchase, where the modification caused or contributed to the damage; (v) to consumable parts, such as batteries; or (vi) if any Emotiva serial number has been removed or defaced and Emotiva cannot otherwise confirm that you are the original retail purchaser. EMOTIVA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATED TO ANY DEFECTS IN OR DAMAGES TO ITS PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

How do you get service? In order to make a claim under the warranty, you must:

1. Call a customer service representative ("CSR") of Emotiva at 1-877-EMO-TECH (1-877-366-8324). Provide the CSR with a description of your problem and the serial number of the product for which the warranty claim is being made.
2. The CSR will provide you with a returned material authorization number ("RMA").
3. Ship the product to Emotiva at the following address, with the RMA written in large, bold numbers on the shipping label, and with the letters "RMA" written before the number. Parcels arriving without an RMA number on the outside of the box will be refused.

Emotiva Audio Corporation
Attn: Repair Department
135 Southeast Parkway Court
Franklin, TN 37064

How does state law apply? This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Accessories

Speaker Cables and Interconnects

Using high-quality speaker cables and audio interconnects will ensure that you get the best sound quality and maximum reliability from your XPA-3 amplifier and the speakers connected to it. Emotiva Audio offers high-quality speaker cables and audio interconnects that feature solid engineering, premium build quality, excellent performance, and reasonable cost.

Rack ears and alternate trim options are also available.

You will find both on our website at www.emotiva.com.

Notes

All information contained in this manual is accurate to the best of our knowledge at the time of publication. In keeping with our policy of ongoing product improvement, we reserve the right to make changes to the design and features of our products without prior notice.

User Manual Revision 2.0 August 2013

EMOTIVA®

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